

IEICE Transactions on Communications  
Volume E93-B, Issue 7, pages 1948-1952, July 2010

## A Robust Derivative Constrained Receiver for MC-CDMA Systems

Lin, Tsui-Tsai; Chen, Tung-Chou

### Abstract

In this letter, a derivative constraint minimum output energy (MOE) receiver is proposed that offers enhanced robustness against carrier frequency offset (CFO). A theoretical analysis of the output signal-to-interference-plus-noise ratio (SINR) is presented to confirm its efficacy. Numerical results demonstrate that the proposed receiver basically offers the same performance as an optimal receiver with no CFO present.

**Key words :** Multi-carrier code division multiple access (MC-CDMA); Carrier frequency offset (CFO); Derivative constrained; Minimum output energy(MOE) receiver